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Montana Department of Transportation
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Memorandum

To: Paul R. Ferry, PE
Highways Engineer

From: Damian Krings, PE DMK
Road Design Engineer

RECEIVED
APR 16 2007
Ravalli County Commissioners

cc RD Dept

Date: April 9, 2007

Subject: STPS 203-1(15)5
North of Stevensville - North
6138000
Project Work Type 151 – Major Rehabilitation without added capacity

Please approve the attached Preliminary Field Review Report.

Approved _____ Date 4/10/07
For Paul R. Ferry
Highways Engineer

We are requesting comments from those on the distribution list. We will assume their concurrence if we receive no comments within two weeks of the approval date:

Distribution:

Dwane Kailey, Missoula District Administrator
Kent Barnes, Bridge Engineer
Paul Ferry, Highways Engineer
Duane Williams, Traffic and Safety Engineer
John Horton, Right-of-Way Bureau Chief
Sandy Straehl Rail, Transit, & Planning Division Administrator
Mac McArthur, Construction Bureau – Value Analysis Engineer
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G. Larson, Project Analysis Bureau Chief
S. Sillick, Research Section Supervisor
S. Kilcrease, District Environmental Engineer
FHWA – Craig Genzlinger, Operations Engineer
W. Noem, Secondary Roads Engineer

Introduction

A preliminary field review was held on-site on January 25, 2007. The following MDT personnel attended the review:

William Squires, Missoula Area Engineer, Road Design, Helena
Mark French, Lead Designer, Missoula Road Design, Helena
David Holien, Missoula Road Design, Helena
Larry Prinkki, Missoula Area Geotechnical Engineer, Helena
K.C. Yahvah, Missoula District Hydraulic Engineer, Helena
Ed Shea, Pavement Analysis, Helena
Ivan Ulberg, Assistant Traffic Engineer, Helena
Shane Stack, Engineering Services Supervisor, Missoula
Susan Kilcrease, Missoula Environmental, Missoula
Suzan Patterson, Missoula Right-of-Way, Missoula

David Ohnstad, the County Road Supervisor for Ravalli County, also attended the review.

Proposed Scope of Work

The project was nominated and programmed to reconstruct Secondary-203 (Eastside Highway) from Reference Post (RP) 5.45± to RP 10.20±. The review team proposes the project limits and scope be revised as described below to more effectively address the crash history and the conditions observed in the field, and to better utilize limited available secondary funding.

The proposed project limits and scope of work are:

RP 3.89± to RP 5.46±: Realign and reconstruct the highway to eliminate two sharp horizontal curves with nominal design speeds less than 30 mph.

RP 5.46± to RP 9.90±: Pulverize, widen, and overlay the highway. The segment from RP 9.90 to 10.20 is currently being designed for reconstruction under BR-STPS 203-1(11)10, Florence - East [4854].

The project is needed to correct the existing deficiencies on this rapidly developing corridor:

- The two curves on the reconstruction segment violate driver expectancy, and are a contributing factor in the identified crash clusters along this segment.

- The lack of paved shoulders and steep inslopes on the proposed pulverize and widen segment provide limited roadside recovery area.

The project is needed to provide:

- a smoother, wider surface to safely handle present and projected traffic volumes
- a horizontal alignment on the reconstruction segment whose design speed is commensurate with the running speeds
- adequate roadside recovery area with design features that will mitigate the overturning vehicle crashes

The two curves proposed for realignment have design speeds well below the running speeds, while the horizontal alignment of the proposed pulverize and widen segment meets 60 mph design criteria. The increased cost of reconstructing the additional 1.1 miles on the south end will be mostly offset by the reduced cost of pulverizing and widening the northerly 4.44± miles (compared to full reconstruction).

The work will include grading, pulverization, gravel, plant mix surfacing, drainage, topsoil and seeding, fencing, striping, signing, delineation, and other miscellaneous items. There will also be utility relocation and right-of-way acquisition.

Project Location and Limits

Secondary-203 is in Ravalli County and begins at the junction with Secondary 269 in Stevensville and ends in Florence at US 93. The project begins at RP 3.89±, about 3.7 miles north of Stevensville, and about 0.2 miles south of the intersection of Wildfowl Lane and Moiese Lane. It extends northerly 5.55± miles to RP 9.90±, about 0.2 miles north of the intersection of Bull Run Road. The end of this project will tie to **BR-STPS 203 1-(11)10 Florence – East [4854]**.

The project length does not correlate to the difference in mileposts because the length of the proposed reconstruction segment from RP 3.89± to RP 5.46± is approximately 1.11 miles, about 0.4 miles shorter than the PTW segment it would replace.

Physical Characteristics

Secondary-203 is functionally classified as a Major Collector. This section of Secondary-203 passes through level to rolling rural terrain. The adjacent land use is generally agricultural and residential. There are numerous county roads, private roads, and private approaches intersecting S-203 within the project limits. Annotated aerial photos of the project are available from Road Design.

The Lee Metcalf National Wildlife Refuge is located west of S-203 between the highway and the Bitterroot River. The refuge is directly adjacent to S-203 between RP 6.2± and 7.1±.

As-built plan information is not readily available from RP 3.032 to RP 4.808, a county construction project reportedly built in 1945. The as-built plan information we do have is listed below:

Reference Post (RP)	As-built Stationing	Project Number	Year
4.961 to 5.495	255+86.5 to 286+79.9	S-120(1)	1955
5.495 to 9.90	286+79.9 to 517+00±	S-170(1)	1955

The original surfacing on the county-constructed segment was 0.25' of base course. It was subsequently covered with road mix bituminous surfacing. For the rest of the project, the original surfacing included 0.58' of compacted select borrow base course, 0.25' of top cushion course, 0.17'of road mix bituminous surfacing, and seal and cover.

Thin-lift overlays (<0.20') were placed on Secondary 203 in1993 from RP 0 to 4.808 under RTS 203-1(2)0, Stevensville Northeast [2227], and in 1995 from RP 4.808 to 11.963 under RTS 203-1(3)5, Florence –South [2664.]

The current roadway width is 24 ft consisting of two 12 ft travel lanes and no shoulders. Surfacing inslopes are 4:1.

Existing fill slopes less than 5 ft are 4:1, and fills greater than 5 ft have 1.5:1 slopes. Embankments 5 to 10 feet high were widened about 4 feet and those over 10 ft were widened 5 feet. Gravel was placed atop the widened embankments flush with the top of the cushion course.

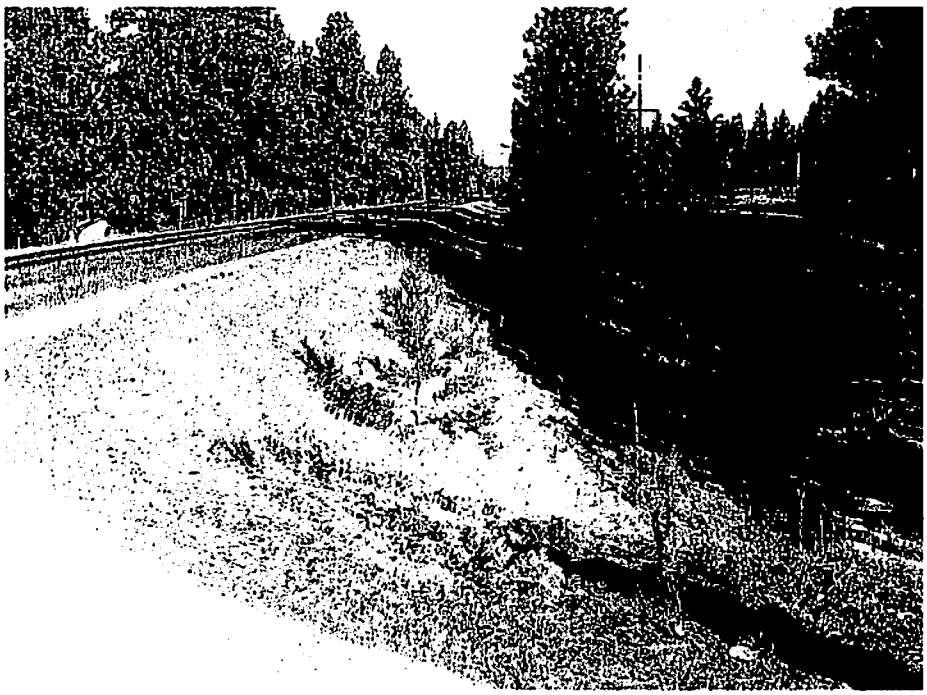
Existing ditch sections have 4:1 inslopes that extend to 12 feet beyond the edge of driving lane, and a 10:1 ditch bottom 10 to 20 feet wide. Backslopes for cuts less than 5 ft are 5:1, cuts between 5 and 10 ft have 3:1 backslopes, and backslopes for cuts over 10 ft are 1.5:1.

All of the horizontal curves, except the two curves at RP 4.5 and RP 5.0, have radii well above the 60 mph design speed minimum of 1200 feet. None of the curves have spiral transitions. The curve at RP 5.0 has a radius of 114.6 ft. We do not have as-builts for the horizontal curve at RP 4.5, but its radius appears to about the same as the curve at RP 5.0. Each of these two curves has warning signs with 20 MPH advisory speed plates.

The maximum grade is -4.522% at as-built station 483+00 (RP 9.25±), compared to the maximum grade of 5% for a rural collector in level terrain. All of the crest vertical curves meet 60 mph design speed criteria. The three sag vertical curves that do not provide 60 mph design speed stopping sight distance (SSD) are summarized below:

PI Station (MP)	Length (ft)	SSD (ft) (570' min.)	Design Speed
320+97 (6.14)	400	462	53 mph
456+00 (8.70)	400	442	56 mph
486+80 (9.28)	400	317	41 mph

The following photo, taken from the approach of El Capitan Road (a county road at RP 7.87±), shows S-203 to the north.



Traffic Data

The traffic data listed below is for S-203 from RP 3.75 to RP 9.90

2006 ADT	=	3,750 Present)
2013 ADT	=	4,770 (Letting Year)
2033 ADT	=	9,490 (Design Year)
DHV	=	1020
T	=	2.1%
ESAL's	=	56
Growth Rate (Annual)	=	3.5%

Accident Analysis

Safety Management completed a crash analysis for the segment from RP 3.75 to RP 9.90 covering the 5 year period from October 1, 2001 through September 30, 2006.

There were 91 total recorded crashes; with two fatal injury crashes (one fatality in each).The 27 injury crashes resulted in 72 injuries. Two truck accidents were reported.

The crash rate was 1.59 compared to the statewide average for rural secondary roads of 1.66. The severity index was 2.41, the same as the statewide average. The severity rate was 3.83, compared to the statewide average of 4.00.

The variations from the average occurrence on rural state secondary roads are:

80.7% dry road accidents vs. 70.3% statewide average
52.8% dark – not lighted vs. 40.7% statewide average
47.4% of the accidents were collision with a wild animal as the first harmful event vs. 14.6%. statewide average

Seven crash clusters were identified within the project limits. Safety Management identified no feasible countermeasures to address a specific crash trend for five of the clusters:

Location	Year
RP 6.2 – 7.5	1998
RP 5.9 – 6.4	1999
RP 7.0 –7.6	1999
RP 6.4 –6.9	2001
RP 7.1 – 7.6	2001

For the 1998 crash cluster between RP 4.1 and 4.7, turn warning signs with 20 MPH speed advisory plates were installed in advance of the curve, and chevron signs were installed through the curve under STPHS 0002(628) 1998 D-1 SIGNING & ELECTRICAL [4425], completed in May 2003.

In 2004, a crash cluster was identified between RP 4.2 and 5.3. Project HSIP 203-1(13)4, SF069 – Flasher – N of Stevensville [6073000] is being developed to address a crash trend on the curve at the intersection with Moise Lane and Ambrose Road (RP 5.1±). This cluster is within the proposed realignment segment. We recommend [6073000] be developed through construction completion, given its relatively low cost, and the inherent uncertainties in our proposal to realign the segment from RP 3.9± to 5.46±.

Safety Management offered the following additional remarks:

There were 68 single vehicle crashes and 23 multi-vehicle crashes. 17 vehicles overturned.

The most common recorded crash throughout the subject location was a collision with a wild animal (33), usually at night, dusk or dawn (23). Ensure that the appropriate animal crossing warning signs are in place and in good condition.

In 16 crashes, the patrolman identified "alcohol" as a contributing circumstance to the crash.

There was a school bus crash by reference point 5.1 with one incapacitating injury, 26 non-incapacitating injuries, and 2 injuries of unknown severity.

When Safety Management and District personnel reviewed the 2004 crash cluster between reference posts 4.2 and 5.3 two alternatives were proposed:

1. *Reconstruction on a new alignment with larger radius curves*
2. *Augment the newly installed curve warning signs with post mounted flashers*

The benefit cost ratio for each alternative was calculated and since the b/c ration was less than one for the reconstruction alternative, the post mounted flasher proposal was programmed in project HSIP 203-1(13)4, SF069 – Flasher – N of Stevensville [6073000]. As noted above that project is currently in development.

It is recommended that the curves/intersections at reference points ±4.6 and ±5.1 be reviewed for operations and geometrics.

Major Design Features – The project will be developed in accordance with the Geometric Design Criteria for Rural Collector Roads (Secondary System), as presented in Figure 12-5 of the Road Design Manual. Additional guidance will be obtained from the Guidelines for Nomination and Development of Pavement Projects (Preventative Maintenance → Reconstruction).

The project will be designed in US Customary Units.

a) **Design Speed.** A 60 mph design speed is proposed, appropriate for a Secondary Road in level terrain. The posted speed limit throughout the project limits is 65 mph.

b) **Horizontal Alignment**. The proposed alignment would match the PTW for the southerly 0.09 miles, and then would shift northeasterly via a pair of gentle S-curves that meet the 60 mph design speed criteria. We developed a conceptual alignment that begins at RP 3.98± with a 2,300-ft. radius curve right that cuts through the SW ¼ of Section 1 and the NW ¼ of Section 12, T 9 N, R 20 W, up to 900± feet east of the PTW. A 3,000-ft. radius curve left would then intersect the east-west leg of the PTW about 300 feet west of the 114.6' curve left at RP 5.1±. The new curve would realign with the north-south leg of the PTW about 1,500 feet north of the 114.6' curve, at RP 5.46±.

This alignment would come as close as 170± feet to the structures that were in place at the time of the aerial photo (10/5/2006). It would pass through fields between houses that are east of S-203 and houses that are west of Moiese Lane.

Six county road intersections with S-203 would be affected by the realignment, and most would require substantial realignment.

The new centerline will generally match the existing one along the pulverize and widen section (RP 5.46± to 9.90±). We will consider placing spiral transitions on the two simple 2,865-ft. radius curves (at MP 6.22 and MP 8.54) that would require them under current standards.

We will also consider minor centerline shifts to avoid sensitive or costly roadside features. One such feature is the Lee Metcalf National Wildlife Refuge, which is adjacent to the west right-of-way line from RP 6.21± to 6.96±. The right-of-way is only 40 to50 feet wide from RP 6.21± to 6.74±, so an alignment shift to the east will have to be considered to minimize/avoid the refuge.

The shift could be accomplished by revising the 2,865-ft curve Right at RP 6.22 and the 5,730-ft. curve Right at RP 6.65. It appears the centerline could have to be shifted 15 to 20 feet and parallel between the two curves to completely avoid the refuge, and still provide standard fill slopes. If a shift that extensive is required, we would probably opt to reconstruct that segment.

c) **Vertical Alignment**. The terrain along the proposed realignment segment is mostly level. We do not foresee any issues that would preclude meeting 60 mph design criteria for the vertical alignment. We anticipate we'll be able to achieve fairly balanced earthwork on this segment.

We reviewed the three sag vertical curves at RP 6.14, RP 8.70, and RP 9.28 that do not provide 60 mph SSD. All three sags are 400 feet long. The crash history suggests the sags may have been a factor in two nighttime crashes at RP 6.14, and one nighttime crash at RP 9.28.

The sags at RP 6.14 and RP 8.70 could be lengthened to 500', with corresponding grade raises up to 0.5 feet, to provide stopping sight distance at 60+ mph. It appears a grade raise would have minimal negative impact to the approaches in the vicinity of the sag at RP 6.14, so we will evaluate revising the sag during preliminary design.

We will not consider revising the sag at RP 8.70, given the lack of crash history, and the detrimental impact a grade raise would have on the approach on the west side, which is downgrade from the highway.

The sag at RP 9.28 would have to be lengthened to 820 feet (a 3.2±' grade raise) to provide 60 mph SSD. The approach on the west side is downgrade from the highway. The one crash resulted in no injuries. We will evaluate the revising the sag during preliminary design, but it is

doubtful we could provide SSD at more than 50± mph without an unacceptable impact to the adjacent approach. If so, we would probably determine the relatively incremental improvement is not worth the additional cost and impact.

We will not pursue design exceptions for any of the substandard sag vertical curves that are not revised because their design speeds are all within 21 mph of the proposed 60 mph design speed. All other crest and sag vertical curves between RP 5.45 and RP 9.90 meet 60 mph design speed criteria.

d) **Typical Sections and Surfacing**. We propose to widen the roadbed enough to provide a paved width of 40 feet, appropriate for the Design Year ADT of 9,490. This will provide two 12 ft travel lanes and two 8 ft shoulders. Standard 6:1 surfacing inslopes are proposed.

We propose to provide standard fill slopes and standard ditches and backslopes for a rural secondary road in level terrain, with a DHV ≥ 200, to the extent that doing so does not result in excessive construction costs, environmental impacts, and right-of-way and utility impacts. We'll strive to at least provide adequate clear zone with recoverable slopes.

The surfacing section described below is based on the projected 57 ESALs and an assumed R-value of 30 for the subgrade. We consider this surfacing section a reasonable assumption on which to base a preliminary cost estimate until additional information is gathered on the soils:

Surfacing Section No. 1 – Surface Widening *

0.30 ft Plant Mix Bituminous Surfacing Grade S (full width)
0.15 ft. Crushed Top Surfacing (¾") (full width)
0.50 ft. CAC (widen 11± feet per side)
0.65 ft. Special Borrow (widen 11± feet per side)
1.60 ft.

* Pulverize the existing plant mix (0.35± ft) and mix with crushed aggregate course for leveling prior to placing cushion course and overlay.

To reduce costs, the full-width crushed top surfacing "cushion course" could probably be omitted, although on other pulverize and widen projects the cushion course has provided a smooth, homogenous surface on which to pave. It also affords more flexibility in designing and constructing the desired profile.

The 0.65 feet of special borrow on the bottom of the section is proposed to reduce cost, but if it is not acceptable, CAC would be placed instead, with a resulting surfacing cost increase of about $30,000 per mile. We think the structural number with the special borrow would be adequate even if the subgrade R-value was about 20, and especially since it would be mostly below the 8-ft. shoulders.

Widening will be achieved by notching the existing roadway at the edge of pavement (12± feet from ℄) to the depth of existing surfacing (1.15± ft), extending the subgrade shoulder about 11 feet on each side, and placing the special borrow/CAC. The plant mix will be pulverized and blended with CAC to create a 0.35±-ft lift of pulverized material/CAC full width, which will be graded as needed to achieve the desired profile grade. The CAC cushion course and plant mix will then be placed.

Surfacing Section No. 2 – Reconstruction

0.30 ft Plant Mix Bituminous Surfacing Grade S
1.30 ft. CAC
1.60 ft. Total

The total surfacing depth of 1.60 feet would maintain continuity with the adjacent pulverize and widen section, but the CAC could probably be reduced to about 0.9 feet and still provide adequate surfacing structure.

A seal coat with Type 1 cover material and CRS 2P seal oil would be placed atop the plant mix surfacing.

e) **Geotechnical Considerations**. We do not anticipate substantial geotechnical issues with the project at this time. Investigation of the foundation material may be required where we propose to widen the higher embankments. Roadway widening may result in backslopes up to 30± feet high, so slope recommendations may be required, especially if we want to consider steeper backslopes to reduce right-of-way impacts. As the design develops, we may have to consider retaining walls in a few areas to reduce/eliminate impacts to costly roadside improvements/property.

f) **Hydraulics**. The only culvert over 84" on the project is a 10'11"S. x 7'1"R. x 70' Structural Plate Pipe Arch for Three Mile Creek at as-built station 278+61. This Three Mile Creek pipe and the other pipes on the project seemed to be in good condition on the field review in January.

We will try to extend the pipes rather than replace them, that is, if the pipes have a remaining life of at least 20 years. Roadway widening will generally require the replacement of existing approach pipes.

The Hydraulic Section noted that the Bitterroot River delineated base floodplain is adjacent to three separate sections of S-203 within our project limits. We anticipate a Ravalli County floodplain permit will be needed for the proposed widening in these floodplain areas.

The Location Study Hydraulics Report is attached.

g) **Bridges.** There are no bridges within the project limits.

Widening will be achieved by notching the existing roadway at the edge of pavement (12± feet from ℄) to the depth of existing surfacing (1.15± ft), extending the subgrade shoulder about 11 feet on each side, and placing the special borrow/CAC. The plant mix will be pulverized and blended with CAC to create a 0.35±-ft lift of pulverized material/CAC full width, which will be graded as needed to achieve the desired profile grade. The CAC cushion course and plant mix will then be placed.

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g) **Bridges.** There are no bridges within the project limits.

h) **Traffic.** The proposed horizontal alignment realignment from RP 4.0± to RP 5.45± would affect the six county road intersections listed below. Some or all of them would have to be revised to intersect at right angles with the proposed new horizontal alignment of S-203:

Moiese Lane – Gravel (Right) RP 3.996
Wildfowl Lane – Gravel (Left) RP 4.0
Moiese Lane – Gravel (Right) RP 5.0
Ambrose Creek Road – Paved (Right) RP 5.0
Sunrise Avenue – Gravel (Left) RP 5.234
Fawn Lane – Gravel (Right) 5.279

There are approximately 10 residences that access S-203 between RP 4.0± and RP 4.9±. that would not have direct access to the proposed realigned segment. It appears the 0.9± mile segment of "Old S-203" between RP 4.0± and RP 4.9± would have to be perpetuated as a county-maintained route to provide access to the highway for these landowners. Two possible locations to access the new alignment from "Old S-203" include RP 4.0± and RP 4.9±.

The north-south leg of "Old S-203" between the Ambrose Creek Road intersection and the end of the realigned segment (800± feet) could probably be obliterated, based on current roadside development.

We recommend auxiliary lanes (probably left turn lanes) be provided where warranted. A list of possible locations for turn lanes includes, but is not limited to, the following intersections:

Ambrose Creek Road RP 5.0
Three Mile Creek Road RP 5.495
Porter Hill Road RP 5.774
Dry Gulch Road RP 7.083
El Capitan Loop RP 7.877 and RP 8.471

There is a major subdivision being planned east of S-203 around RP 6.5±. The developer may have to include auxiliary lanes as systems impact mitigation. If so, we will coordinate our design with the developer's. If the subdivision is not developed before the project is designed, we will evaluate the need for auxiliary lanes to be included in our plans.

The Traffic Engineering Section will develop the signing and pavement marking plans. As stated in Safety Management's crash analysis report, because of the frequent occurrence of wild animal collisions, Traffic Engineering should ensure that the appropriate warning signs are in place and are in good condition. From Image Viewer Version 3 (July 2005), no animal warning signs were in place within the project limits.

i) **Pedestrian/Bicycle/ADA**. It is likely that the existing roadway has little or no pedestrian use and limited bicycle use because of the absence of shoulders. We anticipate the proposed 8 ft shoulders will promote increased bicycle usage and possibly pedestrian usage.

There is an existing separated bike/ped path along the southbound side of S-203 from the Highway 93 junction at RP 11.96 to the Bitterroot River at RP 10.6±. The path will be extended to RP 9.90± under Project BR-STPS 203-1(11)10, Florence - East [4854]. We anticipate there will be requests by area citizens to extend the path the full length of [6138000].

j) **Miscellaneous Features**. We propose to provide mailbox turnouts and new mailboxes. New fencing will be installed according to right-of-way agreements. Guardrail will be installed where warranted, probably on a few high, steep embankments. Other miscellaneous features may be identified as the design progresses.

k) **Context Sensitive Design Issues**. We anticipate the primary context sensitive design issues that arise will be social in nature, as opposed to environmental and cultural. Specifically, we expect the potential right-of-way impacts could affect the project's development.

Other Projects

BR-STPS 203-1(11)10, Florence – East [4854] is currently being designed to reconstruct the roadway from RP 9.86± to RP 11.91±. This project will also include replacing two bridges - one over the Bitterroot River at MP 10.64, and the other at the overflow at MP 10.94. We do not anticipate much potential to tie the projects for contract, unless [4854] is delayed several years beyond its current September 2009 ready date, and [6138000] develops with virtually no "snags".

HSIP 203-1-(13)4, SF069 – Flasher – N of Stevensville [6073000] is being developed to address a crash trend on the curve at RP 5.0± at the intersection with Moiese Lane and Ambrose Creek Road. The proposed scope of work for this project involves adding post mounted flashers to the existing curve warning signs on each side of the curve. Signs that indicate the 90 degree turn is ahead, delineation signs, and removing chevrons are also proposed. Again, we recommend this project be developed through construction.

Location Hydraulics Study Report

The Hydraulics Study Report is attached.

Design Exceptions

We anticipate no design exceptions at this time.

Right-of-Way

Right-of-way widths are typically 40 to 60 ft throughout the project. There are several sections where the right-of-way widths are 100 to 150 ft to accommodate

large cut or fill sections. Proposed right-of-way widths will generally be 70 to 80 ft with several sections extending to 100 ft to 110 ft. We anticipate we will need to acquire approximately 37 acres of right-of-way from RP 3.755 to RP 9.90 to accommodate our proposed widened roadway and standard cut and fill slopes.

As stated in the Location Study Hydraulics Report, the as-built plans show eight 18" irrigation crossings. Maintenance says most of these aren't being used since the agricultural land has been subdivided for housing. We request that Right-of-Way investigate which irrigation pipes can be abandoned.

Access Control

We recommend that access control be implemented on this project. We should consider combining the access control with Florence – East [4854].

ITS

No ITS solutions are being considered at this time.

Utilities/Railroads

There will be utility involvement and relocation; there are power poles along the length of the project and several telephone pedestals were noticed on the field review.

There will be no railroad involvement.

Survey

A full reconstruction survey will be required. We propose aerial mapping, and requested aerial photography on February 1, 2007. Missoula District provided a control and photo control survey and set targets. The project was flown and is now ready for mapping.

When the aerial mapping is completed a pickup survey will be requested to gather data on utilities, pipes, and other features not detectable by aerial mapping. The District Right-of-Way Design staff will request a cadastral survey for the entire project.

Public Involvement

Based on the presently anticipated scope of work, an expanded Level B public involvement plan is appropriate. The proposed plan is briefly described below:

a) A news release describing the proposed scope of work and need for the project will be sent to the local media in the spring/summer of 2007, with a department point of contact.

b) A public informational meeting will be conducted, probably mid to late 2007, to present basic concepts about the project and to gather local input.

c) Adjacent landowners along the project will be contacted at the time of right of entry and preliminary right-of-way report. Landowner concerns and local knowledge will be gathered.

d) Another public informational meeting will be scheduled to present preliminary design features and to seek input, if there is enough public interest. That meeting would probably be held in 2008.

e) When the design is well along and plans are available, right-of-way agents will contact and visit all of the landowners adjacent to the project to explain the work to be performed and the overall design of the project.

The public involvement plan may be adjusted. If controversial issues surface at the public informational meeting, a formal public hearing may be appropriate.

Environmental Considerations

The Lee Metcalf National Wildlife Refuge is adjacent to the roadway for approximately 0.9 miles between RP 6.2± and RP 7.1±. The project will be designed to minimize the impacts to the wildlife refuge as much as possible. Although impact to the refuge is possible, it is unlikely that wetlands within the refuge will be impacted. It is likely the project will have a categorical exclusion for the environmental document.

As stated in the Location Hydraulics Study Report, Three Mile Creek looks like a fishery. It might be a spawning tributary for trout from the Bitterroot River. If this is the case, we would need to coordinate with FWP and we might need a timing restriction for the construction of the culvert in this location.

Traffic Control

The traffic control will be in accordance with the Manual on Uniform Traffic Control Devices. At this time we believe that a minimum of one-way traffic can be maintained throughout construction. However, we may want to limit the contractor to do the grading work on two-mile segments at a time before moving on to the next segment, thereby limiting the length of one way traffic.

There is an extensive network of county roads to the east of S-203 that could serve as an informal detour for local traffic to bypass construction. Also, if there is a need for short-term road closures during construction, these county roads could be used as a formal detour.

Project Management

The Helena Road Design Crew will be responsible for developing the plans and William Squires will be the Project Manager.

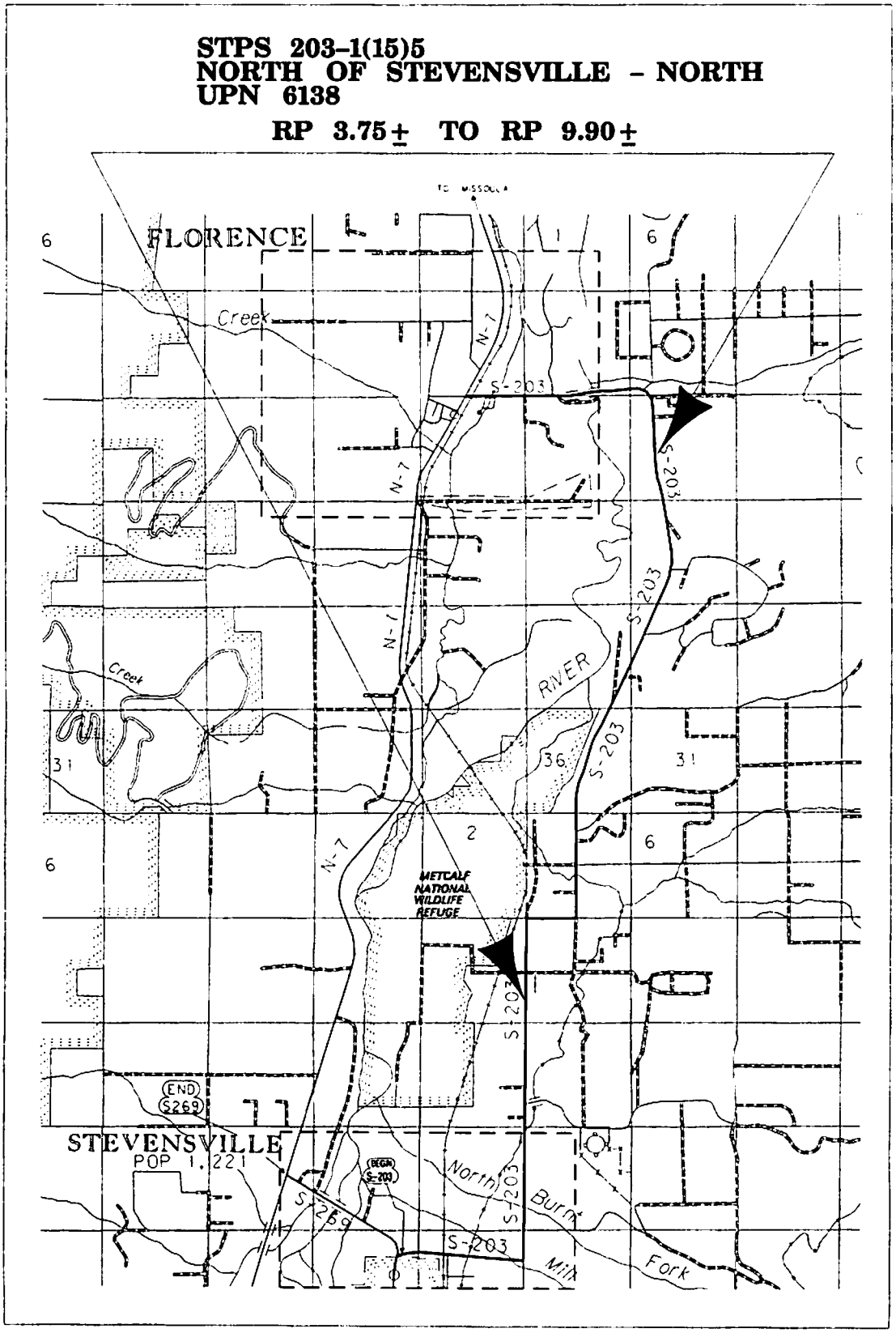
Ready Date

The ready date will be set after overrides are completed in OPX2 and the schedule has been reviewed. In the 2006 Tentative Construction Program, the project is listed as fundable beyond FFY 2011.

Preliminary Cost Estimate

	COST (based on "Estimator" unit prices)	COST w/ IDC (10.91%)
Roadwork - Pulv.& Widen RP 5.45 to RP 9.90	$2,492,200	
Roadwork - New Construction RP 3.75 to RP 5.45	$ 759,900	
Traffic Control	$ 227,700	
Subtotal	**$3,479,800**	
Mobilization (10%)	$ 348,000	
Subtotal	**$3,827,800**	
Contingencies (10%)	$ 382,800	
Subtotal	**$4,210,600**	
Inflation (3% for 6 years)	$ 817,000	
Total CN	**$5,028,000**	**$5,577,000**
CE 10%	**$ 503,000**	**$ 558,000**
Total CN Cost/Mile	$ 890,800	$ 986,900

Site Map



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